What is claimed is:

1. A routing information mapping device, comprising:

a transmitting unit transmitting packets with information about whether a self-device belongs to a connection-oriented network;

a receiving unit extracting information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of a network from the device; and

a tree generation unit generating a routing tree of a network that clearly indicates a device belonging to the connection-oriented network, based on the information extracted by the receiving unit.

2. The routing information mapping device according to claim 1, further comprising:

a judgment unit judging whether the self-device is an edge device of the connection-oriented network, based on the routing tree of the network.

3. The routing information mapping device according

to claim 2, further comprising:

an outside network information acquisition unit obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network.

4. The routing information mapping device according to claim 3, further comprising:

a mapping unit generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device.

5. The routing information mapping device according to claim 1, wherein

said transmitting unit attaches information about a connection protocol used by the self-device to the packet and transmits the information.

6. The routing information mapping device according to claim 1, comprising:

a server unit receiving both information about a configuration of the network and information about

whether the self-device belongs to the connection-oriented network from each device and transmitting both the information about the configuration of the network and information about whether each device belongs to the connection-oriented network to a requesting device at a request of each device.

7. The routing information mapping device according to claim 6, wherein

said sever unit receives information about a connection protocol used by each device from each device, stores the information and transmits the information to the requesting device at the request of each device.

8. The routing information mapping device according to claim 1, wherein

the packet is transmitted/received using a routing protocol.

9. The routing information mapping device according to claim 1, wherein

the packet is transmitted/received using a connection protocol.

10. The routing information mapping device according to claim 4, wherein

the table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device that is transmitted from another device is used in the self-device as routing information.

11. The routing information mapping device according to claim 10, wherein

if the tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table transmitted via the route with an optimal cost is used.

12. A routing information mapping method, comprising:

(a) transmitting a packet with information about whether a self-device belongs to a connection-oriented network;

(b) extracting both information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of a network from the other device; and

(c) generating a routing tree of the network that clearly indicates a device belonging to the connection-oriented network, based on the information extracted in step (b).

13. The routing information mapping device according to claim 12, further comprising:

(d) judging whether the self-device is an edge device of the connection-oriented network, based on the routing tree of the network.

14. The routing information mapping method according to claim 13, further comprising:

(e) obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network.

15. The routing information mapping method according to claim 14, further comprising:

(f) generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device.

16. The routing information mapping method according to claim 12, wherein

in step (a), information about a connection protocol used by the self-device is attached to the packet and is transmitted.

17. The routing information mapping method according to claim 12, further comprising:

(g) receiving both information about the configuration of the network and information about whether the self-device belongs to the connection-oriented network from each device, storing the obtained information and transmitting both the information about the configuration of the network and information about whether each device belongs to the connection-oriented network to a requesting device at a request of each device.

18. The routing information-mapping method according to claim 17, wherein

in step (g), information about a connection protocol used by each device is received from each device, the information is stored and the information is transmitted to the requesting device at the request

of each device.

19. The routing information mapping method according to claim 12, wherein

the packet is transmitted/received using a routing packet.

20. The routing information mapping method according to claim 12, wherein

the packet is transmitted/received using a connection packet.

21. The routing information mapping method according to claim 15, wherein

the table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device that is transmitted from another device is used in the self-device as routing information.

22. The routing information mapping method according to claim 21, wherein

if the tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table

transmitted via a route with an optimal cost is used.

23. A storage medium on which is recorded a program for enabling a processor to execute routing information mapping, said process comprising:

(a) transmitting a packet with information about whether a self-device belongs to a connection-oriented network;

(b) extracting both information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of the network from the device; and

(c) generating a routing tree of the network that clearly indicates the device belonging to the connection-oriented network, based on the information extracted in step (b).

24. The storage medium according to claim 23, said process further comprising:

(d) judging whether a self-device is an edge device of the connection-oriented network, based on the routing tree of the network.

25. The storage medium according to claim 24, said

process further comprising:

(e) obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network.

26. The storage medium according to claim 25, said process further comprising:

(f) generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device.

27. The storage medium according to claim 23, wherein in step (a), information about a connection protocol used by the self-device is attached to the packet and is transmitted.

28. The storage medium according to claim 23, said process further comprising:

(g) receiving both information about the configuration of the network and information about whether the self-device belongs to a connection-oriented network from each device, storing

the obtained information and transmitting both the information about the configuration of the network and information about whether each device belongs to the connection-oriented network to a requesting device at a request of each device.

29. The storage medium according to claim 28, wherein in step (g), information about a connection protocol used by each device is received from each device, the information is stored and the information is transmitted to the requesting device at the request of each device.

30. The storage medium according to claim 23, wherein the packet is transmitted/received using a routing packet.

31. The storage medium according to claim 23, wherein the packet is transmitted/received using a connection packet.

32. The storage medium according to claim 23, wherein a table for relating routing information of the connection-oriented network to routing information of an outside network connected to the self-device that

is transmitted from another device is used in the self-device as routing information.

33. The storage medium according to claim 23, wherein if a plurality of tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table transmitted via the route with an optimal cost is used.